

Foodborne Poisoning (ciguatera fish poisoning) Investigation Overview

The following guidelines provide a brief overview of the steps of a ciguatera fish poisoning investigation. Ciguatera fish poisoning (or ciguatera) is an illness caused by eating fish that contain toxins produced by tiny algae found around coral reefs. People who have ciguatera may experience gastrointestinal (e.g., nausea, vomiting) and/or neurologic symptoms (e.g., tingling sensations, metallic taste in the mouth, hot/cold reversal). Ciguatera has no cure. Symptoms usually go away in days or weeks but can last for years. People who have ciguatera can be treated for their symptoms. It is not spread from person to person. Ciguatera fish poisoning is very rare but cases associated with imported or migrating reef fish have been identified in the Carolinas (<https://jamanetwork.com/journals/jama/fullarticle/203538> and <https://www.cdc.gov/mmwr/preview/mmwrhtml/mm5811a3.htm>).

For additional support, consult the NC Communicable Disease Branch at (919) 733-3419.

Basic Steps of a ciguatera fish poisoning Investigation

1. Ensure case definition is met	<ul style="list-style-type: none"> Clinical criteria are required for the Ciguatera case definition. Laboratory evidence is only required for confirmed cases, but rarely occurs since the implicated fish would need to be tested for toxin
2. Collect clinical information	<ul style="list-style-type: none"> Can include nausea, vomiting, diarrhea, and stomach pain Some may have a tingling sensation, tooth pain or feeling as if teeth are loose itching, a metallic taste in the mouth, or blurred vision Some find that cold things feel hot and hot things feel cold
3. Determine the incubation period	<ul style="list-style-type: none"> Usually within 3-6 hours of exposure to contaminated fish (range: 30 minutes to 2 days)
4. Manage the case	<ul style="list-style-type: none"> Determine if requirements for case definition are met Interview the case and complete the Part 2 Form/risk history and clinical packages in NCEDSS
5. Identify source of exposure	<ul style="list-style-type: none"> Review clinical records for potential source(s) of exposure Interview patient to obtain additional information about fish consumed in the 24 hours prior to symptom onset
6. Review Laboratory Information	<ul style="list-style-type: none"> There are no human clinical laboratory tests for ciguatera toxin If there are leftover fish that may be tested, contact Environmental Health Specialist to arrange for embargo of the product and collection for testing Consult with the State Epidemiologist On Call if there is a request to have fish samples tested

7. Implement Control Measures	<ul style="list-style-type: none"> • If fish are identified, the location of purchase or consumption should be contacted by environmental health specialist immediately to alert them of the potential contamination of fish with ciguatera toxin • Environmental Health Specialist should consult with the CD Branch to discuss embargo of specific fish in a particular location to prevent others from being exposed. Large predatory reef fish are the typical vehicle for this toxin
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➤ Resources – <https://www.cdc.gov/nceh/ciguatera/default.htm>

Critical Elements for NCEDSS

➤ None